

(a) acquiring a plurality of sets of image information with an ultrasonic transducer array, said array moved substantially in an image plane between sets of image information;

(b) determining a component of motion in the image plane based on a comparison of image information from a first one of said sets with a second one of said sets and a search area;

(c) adaptively changing a center of the search area within the second one of said sets as a function of a previous motion estimate for step (b);

(d) registering said first and second sets as a function of the component of motion; and

(e) forming an extended field of view image as a function of the registration of step (d).

117. The method of Claim 116 further comprising step (f) of adaptively changing a size of the search area as a function of the previous motion estimate.

118. A method for forming an extended field of view of a target, said method comprising the following steps:

(a) acquiring a plurality of sets of image information with an ultrasonic transducer array, said array moved substantially in an image plane between sets of image information;

(b) gating step (a);

(c) determining a component of motion in the image plane based on a comparison of image information from a first one of said sets with a second one of said sets, the first and second ones of said sets corresponding to a portion of a cycle as a function of the gating of step (b);

(d) registering said first and second sets as a function of the component of motion; and

(e) forming an extended field of view image as a function of the registration of step (d).

4 119. The method of Claim ³118 wherein step (b) comprises gating to an ECG cycle.

5 120. The method of Claim ³118 wherein step (b) comprises gating to a breathing cycle.

4 121. A method for forming an extended field of view of a target, said method comprising the following steps:

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- (a) acquiring a plurality of sets of image information with an ultrasonic transducer array, said array moved substantially in an image plane between sets of image information;
- (b) compressing the sets of image information;
- (c) transferring the compressed sets of image information to a motion estimation computer;
- (d) determining a component of motion in the image plane based on a comparison of image information from a first one of said sets with a second one of said sets with the motion estimation computer;
- (e) registering said first and second sets as a function of the component of motion; and
- (f) forming an extended field of view image as a function of the registration of step (e).

7 122. The method of Claim ⁶121 further comprising step (g) of decompressing the sets of image information after step (c).

8 123. The method of Claim ⁶121 wherein step (c) comprises transferring to a remote site.

9 124. A method for forming an extended field of view of a target, said method comprising the following steps: